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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,181	12/07/2001	Robert Andre	AT-19.PCT/US	9542

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EXAMINER
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AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/914,181

**Applicant(s)**

ANDRE ET AL.

**Examiner**

Jeff H. Aftergut

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 9, 11, 12, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over E.P. 897,174 in view of E.P. 911,803 and Newsam and optionally further taken with any one of Hom, Whitemore et al or Beggs et al for the same reasons as clearly expressed in paragraph 2 of the Office action dated 2-14-05.
3. Claims 10, 13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adee et al in view of Daunt et al and E.P. 911,803 optionally further taken with any one of Hom, Whitemore et al or Beggs et al.

Adee and Daunt et al are discussed at length in the Office action dated 2-14-05 and applicant is referred to the same for a complete discussion of the rejection. The reference to Adee et al suggested that the acoustical panel would have been formed with a microporous layer on the exterior of the assembly and additionally that the structure would have included a cellular structure as well as a reflector assembly therein, see Figure 3. The reference did not state that one skilled in the art would have provided the exterior layer as the structural layer of the panel.

E.P. '803 taught that it was known to incorporate the strengthening layer of reinforcement either under the acoustical fabric material or over the fabric material (such that the acoustical fabric material was not left exposed in the finished panel assembly), see column 1, lines 32-40, column 2, lines 36-43, column 1, lines 50-53, for example. It should be noted that the entire assembly was assembled together with

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adhesive and then the entire assembly was cured with the application of heat and pressure in an oven/vacuum bag. The reference to E.P. '803 suggested that those skilled in the art would have employed the embodiment where the microporous material was disposed under the perforated sheet material in order to protect the same as described at column 2, lines 54-column 3, line 6. It would have been obvious to one skilled in the art at the time the invention was made to employ a structural layer on the exterior of the composite panel as suggested by E.P. 911,803 (for the reasons expressed by E.P. '803) wherein one skilled in the art would have understood that the structural panel would have been formed in a perforating process where a composite sheet material was perforated on a drum as taught by Daunt et al and Adee et al.

While it is believed that one skilled in the art would have readily discerned that the assembly would have been disposed in an autoclave to apply the appropriate pressure to the assembly during curing of the panel assembly as such was commonplace in the art (and it is taken as conventional in the art of bonding a panel assembly to utilize the same), the reference to any one of Hom, Whitmore et al, or Beggs et al suggested that those skilled in the art at the time the invention was made would have incorporated an autoclave to secure the various layers together. Applicant is more specifically referred to Hom at column 4, lines 28-44 and column 3, lines 45-51, Whitmore et al at column 3, lines 16-31, or Beggs et al at column 4, lines 10-34 all suggested that in the formation of an acoustical panel one skilled in the art would have incorporated an autoclave to apply the pressure and heated during the same in order to cure the resin in the assembly to make the finished panel. It would have been obvious

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to one of ordinary skill in the art at the time the invention was made to incorporate the techniques of any one of Hom, Whitmore et al, or Beggs et al to provide for the heat and pressure necessary to cure the resin layers in the formation of an acoustical panel wherein the reinforcing material was provided on the exterior of the panel as suggested by E.P. 911,803 in the process of making an acoustical noise attenuation panel which was formed with a structural layer formed in a perforating operation as taught by Daunt et al and Adee et al.

4. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 3 further taken with E.P. 897,174.

The references as set forth above clearly recited that the structural layer was formed from composite material, however there is no indication that one skilled in the art would have formed the same from multiple layers wherein the fibers from the layers would have been oriented in differing directions. However, it was well known at the time the invention was made to employ multioriented layers of fibers in the composite material of a structural layer of a porous member of an acoustical attenuation panel as evidenced by E.P. '174. Note that in E.P. '174 the porous structural layer was formed in a filament winding operation to form a multilayer assembly and the fibers were oriented in differing angles. To provide a specific filament orientation would have been within the purview of the ordinary artisan as such would have facilitated the formation of a finished assembly with the desired final strength properties. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a multi layer composite for the porous structural layer as such would have provided the desired

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degree of reinforcement in the finished assembly by orienting the fibers in different directions as suggested by E.P. 897,174 in the process of making an acoustic panel as set forth above in paragraph 3 wherein the panel included a porous composite layer therein which was perforated.

### ***Response to Arguments***

5. Applicant's arguments filed 5-16-05 have been fully considered but they are not persuasive.

It is agreed that applicant's claimed invention is novel over the prior art of record and that none of the prior art of record taught the use of the preimpregnated filaments as a layer of structural properties on the exterior of an acoustical attenuating panel, however the rejection is not based upon 35 USC 102, but rather it is based upon 35 USC 103(a). The applicant is advised that the reference to E.P. '174 suggested the incorporation of a structural layer which was wound or laid or otherwise formed on a mold surface in the manner claimed for use as a structural component in an acoustical attenuating panel. The reference to E.P. '174 applied onto the exterior of the same a microporous layer having acoustic properties which layer was the exposed exterior layer. The reference to E.P. '803 expressly provided the motivation for reversing the order of the layers and applying the structural layer on the exterior as expressed in the previous Office action. While the reference to E.P. '803 did utilize metal for the microporous material (the acoustical layer) as well as for the structural layer (metal with opening therein, note that the reference did expressly state that "non-metallic materials can be employed in construction of the liner, see column 3, lines 39-44), it provided

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ample motivation as to why one skilled in the art at the time the invention was made would have reversed the order of the layers in order to provide a finished assembly which had greater durability in terms of reduced impact damage as well as reduced peel possibility. It should be noted that impact damage could occur during normal maintenance of the panel and that peel problems could cause an engine safety hazard, column 2, lines 54-column 3, line 6. Therefore, one of ordinary skill in the art would have been motivated to provide the structural layer on the exterior and the microporous mesh material (the acoustical layer) adjacent the same but below the exposed layer of structural material in order to provide a finished assembly with enhanced durability both from damage as well as peeling.

Regarding the inclusion of Newsam, the applicant is advised that Newsam was cited to show that in an acoustical panel one skilled in the art would have understood that a glass fiber or a stainless steel fiber would have been alternatives in the art for the material from which the microporous material would have been formed. The applicant is advised that as expressed in the previous Office action, one skilled in the art would have understood that it was an art recognized alternative to utilize a glass or plastic filament for the microporous material instead of stainless steel in light of the express teachings of Newsam and that where, as here, such were art recognized alternatives an express teaching of the desirability of the substitution of one for the other is not needed to render such substitution obvious. It should be noted that for the rejection of claim 9, this is all that is needed (a three reference rejection). Such is clearly not complex as

asserted by applicant and is not at all deemed to be taking portions of the references out of context when viewing the prior art as a whole.

The references to any one of Hom, Whitmore et al or Beggs et al were cited to show that those skilled in the art would have understood that a composite acoustical panel would have been cured in an autoclave (such was taken as a conventional manner for application of heat and pressure to cure the resin used to bond the multi layer panel of the prior art). The references clearly lead one to believe such is commonplace processing for an attenuating acoustic panel and that one would have been led to process the material in the manner described. Applicant does not dispute that these references taught the use of the autoclave or that such use for application of heat and pressure was uncommon to the art.

The rejection of claim 10 has been altered as it is not deemed necessary to employ the references to Newsam and E.P. '174 as a basis for rejection of this claim as the claim does not require the build up of the layers on the mold (other than the structural layer which was recited to be on the mold) and the references do not require that the microporous layer be formed from a plastic or glass material as is required of claim 9. As such, the references to Adee et al and Daunt et al clearly suggested the formation of the structural layer on a mandrel or core followed by perforation of the same. The reference to E.P. '803 clearly suggested one skilled in the art would have utilized the perforated material as the exterior layer and disposed the microporous layer under the same (note that Adee suggested disposing the microporous layer on the



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exterior). Again, this ground of rejection does not appear to be complex and/or complicated as expressed by applicant.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

JHA  
July 1, 2005